

## ABSTRACT OF THE DISCLOSURE

The present invention provides an optical demultiplexer and an optical multi-/demultiplexer at low cost without reducing performance capabilities. An optical demultiplexer 100a includes: a multi-mode waveguide having such an optical path length as to cause a difference between first and second wavelengths with respect to a phase difference between zero- and first-order modes to become an integral multiple of  $\pi$ ; an input waveguide 105a optically connected to the input side of the multi-mode waveguide 102a such that the optical axis thereof is offset from the center line of the multi-mode waveguide 102a; and two output waveguides 103a and 104a optically coupled to the multi-mode waveguide 102a at different positions of the output side of the multi-mode waveguide 102a. The two output waveguides 103a and 104a are located in such a manner as to maximize the extinction ratio.